

GAO

United States General Accounting Office

Report to the Chairman, Subcommittee
on Readiness, Committee on Armed
Services, House of Representatives

November 1990

ARMY LOGISTICS

Better Management of the Army's Unserviceable Inventories Could Save Millions

AD-A230 862



National Security and
International Affairs Division

B-240213

November 30, 1990

The Honorable Earl Hutto
Chairman, Subcommittee on Readiness
Committee on Armed Services
House of Representatives

Dear Mr. Chairman:

As you requested, we examined the Department of the Army's plans for using its unserviceable asset inventories. Our work revealed that the Army could reduce its procurement costs by repairing these assets instead of purchasing new ones. This report makes several recommendations to the Secretary of the Army for improving the Army's management of its unserviceable asset inventories.

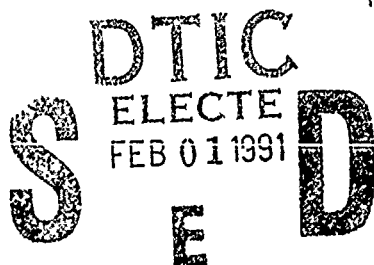
As arranged with your office, unless you publicly announce its content, earlier, we plan no further distribution of this report until 7 days from its date. At that time, we will send copies of this report to appropriate congressional committees, the Secretaries of Defense and the Army, and the Director of the Office of Management and Budget. Copies will also be made available to others upon request.

Please contact me at (202) 275-4141 if you or your staff have any questions concerning the report. Major contributors to this report are listed in appendix III.

Sincerely yours,



Richard Davis
Director, Army Issues



Accession For	
NTIS GRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input checked="" type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By _____	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	



DISTRIBUTION STATEMENT A

Approved for public release;
Distribution Unlimited

Executive Summary

Purpose

As of September 1989, the Army's unserviceable inventory of spare and repair parts totaled about \$5.1 billion ("unserviceable" assets are defined as assets that need to be repaired). This inventory has increased by about 59 percent from fiscal years 1985 to 1989. Repairing assets is often less costly and less time-consuming than purchasing replacements to support operational and combat-readiness requirements. Thus, the Army can minimize its inventory investment costs and enhance readiness by reusing its unserviceable stock more often.

The Chairman of the Subcommittee on Readiness, House Committee on Armed Services, requested GAO to examine the Army's plans for reusing its unserviceable inventory and to determine whether the Army should be repairing these assets instead of buying new ones to meet user needs. GAO also examined the Army's efforts to dispose of unserviceable inventory that it had determined would not be repaired.

Background

The Army Materiel Command, through its six inventory control points, is required to maintain sufficient numbers of assets through repair or procurement to satisfy user demands and to dispose of assets the Army cannot reuse. Unserviceable assets at Army depots include those that the Army intends to repair ("reparable items") and those it intends to throw away once they fail ("consumable items").

Both the Department of Defense and the Army prefer the economical repair of unserviceable assets to new procurement because repair provides maximum readiness at the least investment cost. Further, Department of Defense and Army policy provides for the disposal of assets that cannot be economically repaired or reused in order to free up storage space and prevent unnecessary holding costs.

Results in Brief

GAO visited three Army inventory control points and found that they had unserviceable assets in storage that they could have repaired to reduce the purchases of new assets. On the basis of its sample, which included 140 of 815 items the control points were purchasing between June and November 1989 (purchases for all 815 items were valued at about \$216.8 million), GAO believes that repairing unserviceable assets would have enabled the Army to reduce costs.

During its review of the 140 items, GAO found that the Army had unserviceable assets in storage that it had determined were too costly to repair but had not been designated for disposal. The inventory control

points retained unneeded materiel because they believed that they were following the Army's current retention policies, which essentially allow the item manager to keep any item.

These issues have been reported before but have not been corrected, in part, because the Army's internal controls have not been effective.

Principal Findings

Procurement Costs Can Be Reduced by Repairing Unserviceable Assets

GAO found that at three Army inventory control points—the Aviation Systems Command, the Communications-Electronics Command, and the Missile Command—item managers had initiated purchases for new assets without considering the potential for repairing unserviceable ones in storage.

Between June and November 1989, these inventory control points identified 815 reparable items with buys in process valued at \$216.8 million and with unserviceable assets on hand. GAO randomly selected and analyzed 140 of these items and found that for 36 items, the item managers could have reduced procurements by repairing the unserviceable assets instead of buying new ones. On the basis of its sample results, GAO estimated, with a 95-percent confidence level, that the Army could have saved between \$21.1 million and \$35.9 million for the 815 items by repairing assets rather than buying them.

GAO found that, at times, local instructions conflicted with established inventory management regulations to minimize inventory costs. Because of the Army's emphasis on high stock availability and funding plans, the inventory control points had presumed that meeting these goals was more important than economizing in inventory investment decisions.

Army Retains Disposable Assets

According to the Army's data, of its total \$5.1 billion inventory of unserviceable assets, it had about \$1.4 billion in unserviceable assets, or about 27 percent, that had not been included in any past or present repair program as of September 30, 1989. Because the Army does not intend to repair some of these assets, they are candidates for disposal. In 30 of the sample 140 cases, however, GAO found that item managers had not taken actions to dispose of reparable assets that were uneconomical to repair.

The item managers told GAO that, although they had determined that repairing the unserviceable assets was too costly, disposal actions were low priority and too time-consuming because of the necessary manual administrative processing.

The Army's unserviceable inventory included about \$17.3 million of consumable assets. The Army intended to throw them away once they failed, but instead, it has been keeping them. GAO's review of these assets at the three control points showed that for 13 of the 21 items analyzed, the Army had not justified holding them in storage.

At the time of GAO's review, item managers had not disposed of many of these unserviceable assets because they believed that, under current Army policies, as long as the assets were applicable to an active weapon system, they could be kept in inventory. Although Army policies require keeping stock that applies to these weapon systems, the requirement relates only to serviceable, economically repairable items that do not exceed shelf and storage limitations. Therefore, if the assets are uneconomical to repair or if storage space becomes crowded, they should be disposed of.

Retaining unserviceable repairable and consumable assets unnecessarily contributes to the overcrowding of storage facilities and increased costs to operate them. GAO found that the Missile Command, to help its item managers identify items for disposal, had developed an automated system to identify unserviceable assets that were (1) not repairable after use, (2) designated as below-depot-level repairable items with no planned repair program, or (3) above authorized retention levels. The Army Materiel Command is deciding whether to require all its control points to adopt this program.

Attempts to Strengthen Internal Controls

The issues hindering the economical use of the Army's unserviceable assets have been reported on several occasions but have not been corrected, in part, because the Army's internal controls do not require effective follow-up to ensure that corrective actions have been implemented. Although the Army has promised many corrective actions in response to recommendations from GAO and others, it has not followed through to ensure that the corrective actions were implemented.

Recommendations

GAO recommends that the Secretary of the Army direct the Commander of the Army Materiel Command to take the following actions:

-
- Establish a means to monitor the control points' compliance with Army policy and regulations that require unserviceable assets to be repaired when it is more economical than purchasing new ones.
 - Clarify to item managers that existing regulations allow them to dispose of items the Army (1) has determined to be uneconomical to repair or (2) does not plan to include in a repair program.
 - Regularly follow up on planned corrective actions that have responded to audit findings and recommendations to ensure that the actions have been successfully implemented.

Other recommendations are included in chapters 2 and 3.

Agency Comments and GAO Evaluation

The Department of Defense generally agreed with GAO's findings and recommendations (see app. II). The Department indicated that, within 90 days, the Secretary of the Army will direct the Commander of the Army Materiel Command to take the recommended actions.

The Department partially concurred with GAO's estimate of procurement cost savings resulting from repairing assets rather than buying new ones. However, the Department suggested that field-level assets cannot be economically repaired at depots and that initiating repair programs would have been either impractical or uneconomical for small quantities of these types of unserviceable assets.

GAO believes that its estimate of cost savings is valid. Although repairing unserviceable assets at the lowest maintenance level possible generally is the most cost-effective approach, the Army sometimes performs field-level repairs at the depots if repair requirements cannot be satisfied at lower-level facilities. Notwithstanding the actual scheduling of repair programs, Army Regulation 710-1 requires item managers to reduce purchases of new assets by the number of unserviceable assets which are available to be repaired. Therefore, based on this requirement, GAO included field-level assets in an unserviceable condition in its procurement savings estimate.

Contents

Executive Summary		2
Chapter 1		8
Introduction	Growth of the Unserviceable Inventory and Plans to Repair Assets	8
	Repair of Assets Offers an Economic Alternative to Procurement	9
	Objectives, Scope, and Methodology	11
Chapter 2		13
The Army Can Reduce Procurement Costs by Repairing Unserviceable Assets	Army Policy Aimed at Minimizing Investment Opportunities for Minimizing Inventory Management Costs	13
	Impact of Stockage Goals and Funding Plans on Stock Management Decisions	14
	Conclusions	18
	Recommendations	21
	Agency Comments and Our Evaluation	22
Chapter 3		24
The Army Can Increase the Disposal of Assets in Storage	Unserviceable Assets in Army Depots	24
	Opportunities to Dispose of Some Repairable Assets	25
	Consumable Assets Should Be Disposed of	25
	Factors Contributing to Keeping More Stock in Storage Than Necessary	26
	Actions to Encourage Increased Asset Disposal	27
	Conclusions	28
	Recommendations	29
	Agency Comments and Our Evaluation	29
Chapter 4		31
Internal Controls Should Be Strengthened to Preclude Recurring Inventory Management Deficiencies	Recurring Problems Have Not Been Corrected	31
	Compliance Needed With Existing Policy and Guidance	34
	Conclusions	34
	Recommendation	35
	Agency Comments and Our Evaluation	35

Appendixes

Appendix I: Methodology for Identifying the Procurement of On-Hand Assets and for Computing Potential Savings	36
Appendix II: Comments From the Department of Defense	39
Appendix III: Major Contributors to This Report	56

Tables

Table 1.1: Army's Unserviceable Asset Inventory and Repair Plans	9
Table 2.1: Comparison of Procurement Costs and Repair Costs for 36 Sample Items	15
Table 2.2: Percentage of Demands Filled by On-Hand Stock	19
Table 3.1: Value of Army Unserviceable Assets With No Past or Present Repair Program	24
Table 3.2: Dollar Value of Disposed Assets	28
Table I.1: Estimated Procurement Savings Resulting From Repairing Unserviceable Assets	37

Abbreviations

AMC	Army Materiel Command
AMCCOM	Armament, Munitions and Chemical Command
AVSCOM	Aviation Systems Command
CECOM	Communications-Electronics Command
DOD	Department of Defense
GAO	General Accounting Office
ICP	Inventory Control Point
MICOM	Missile Command
NSN	National Stock Number
TACOM	Tank-Automotive Command
TOW	Tube-Launched, Optically-Tracked, Wire-Guided
TROSCOM	Troop Support Command
RDES	Requirements Determination and Execution System

Introduction

Army forces worldwide must have a continuous resupply of assets to support their operational and combat readiness requirements. To meet this demand, the Army maintains a large inventory of assets to replenish stock depleted through day-to-day operations, and to replace equipment parts that break down through normal use. The Army Materiel Command (AMC) administers the Army's supply system and establishes management policies and procedures for its six inventory control points (ICP).¹ To satisfy user demands, these ICPs forecast stock requirements and initiate supply actions to ensure that sufficient assets are available when needed.

Military capability can be hindered if assets are not available when users need them. Thus, the ICPs are challenged to maintain adequate asset inventories in a mission-ready condition through timely, effective, and economical resupply actions. If on-hand stock is insufficient, the ICPs cannot meet customer demands. On the other hand, if too much stock is maintained, resources may be used to buy and hold assets that may never be required. In either case, the Army incurs higher than necessary investment costs to maintain its supply inventory.

As of September 1989, the Army's ICPs managed about \$14.4 billion worth of secondary assets.² Of this amount, \$9.3 billion represented new, repaired, or reconditioned assets ready for issue to users. The remaining \$5.1 billion represented unserviceable assets, that is, assets awaiting repair or disposal. The Army received about \$1.5 billion in fiscal year 1990 to purchase new assets and about \$1 billion to repair unserviceable assets.

Growth of the Unserviceable Inventory and Plans to Repair Assets

The Army's unserviceable inventory increased from \$3.2 billion in fiscal year 1985 to \$5.1 billion in fiscal year 1989, or about 59 percent. For the same period, the value of assets scheduled for repair increased from \$.9 billion to \$1.5 billion, or about 67 percent. In contrast, however, the value of assets scheduled for repair compared to the total inventory has increased only 1 percent above the 1985 amount.

¹The Army's six ICPs are the Armament, Munitions and Chemical Command (AMCCOM); the Aviation Systems Command (AVSCOM); the Communications-Electronics Command (CECOM); the Missile Command (MICOM); the Tank-Automotive Command (TACOM); and the Troop Support Command (TROSCOM).

²Secondary assets include spare parts, repair parts, and supplies for principal assets such as helicopters, tanks, vehicles, and weapon systems.

Table 1.1: Army's Unserviceable Asset Inventory and Repair Plans

Dollars in billions			
Fiscal year	Total value of unserviceable inventory	Scheduled for repair	Percent scheduled
1985	\$3.2	\$.9	28
1986	3.8	1.0	26
1987	4.1	1.0	24
1988	4.3	1.3	30
1989	5.1	1.5	29

In recent years, the military services have experienced an unprecedented growth in inventory levels and numerous supply management problems. Congressional investigations, GAO reports, and Department of Defense (DOD) studies have identified multiple causes for the inventory growth and have suggested solutions for the services' supply management problems. In doing so, they have also expressed concern that the military services do not have an efficient and effective defense supply system to maximize readiness at the least investment cost.

For example, in its 1988 report, The Defense Department's Costly Failure to Properly Manage Its Inventories Continues, the Senate Committee on Governmental Affairs noted that "... growth in DOD's secondary inventory has simply overwhelmed DOD's depots, warehouses, and accounting and control systems." It added that "... the management of current inventories has not kept pace with DOD's ability to spend money on new goods." As evidence that this growth has been neither effective nor economical, the Committee pointed out that between 1981 and 1985, GAO and DOD's audit agencies issued over 300 reports critical of DOD's inventory management. The Committee recommended that DOD reduce both the volume and the value of its secondary asset inventory.

Repair of Assets Offers an Economic Alternative to Procurement

To maintain readiness at the least cost, decisions on replenishing stock must be timely and must consider economical factors. The Army uses depot-level maintenance programs³ to return unserviceable assets to a like-new condition whenever the repair cost is less than the purchase price of a new asset. As an alternative or supplement to procurement, the repair of unserviceable assets (1) checks inventory growth by promoting the reuse of assets already on hand, (2) minimizes investment

³Depot-level maintenance programs, which involve complex repairs performed by contractors or at the Army's depots (rather than in the field), include major overhaul or rebuilding of principal items, such as engines and related parts and equipment.

costs because repairing an item generally costs less than buying a new one and additional storage of new assets is not required, and (3) improves readiness whenever the time to repair an item is less than the time to buy it.

The decision to satisfy readiness requirements at the least investment cost begins when an item is first introduced into the supply system. On the basis of its dollar value, essentiality, and repairability, the Army decides whether the item is more economical to repair and reuse than replace and, for supply management purposes, designates the item as a "reparable" asset. Items not intended for reuse are designated "consumable" assets and should be disposed of once they become inoperative.

The process of determining what, when, and how much to buy, repair, or dispose of is based upon predicting future requirements for an asset, considering historical data and known or anticipated future needs. The ICPS have a standard automated inventory management system—the Requirements Determination and Execution System (RDES)—which integrates requirements, available resources, economic factors, and the latest logistics policies to calculate the stock positions of secondary assets. RDES provides the ICPS the capability to screen their inventories and identify timely and cost-effective supply actions.

For effective inventory management, RDES periodically provides the ICPS comparisons of on-hand and due-in quantities of assets with authorized requirements. Using this information, the item manager can determine when actions should be initiated to (1) repair unserviceable assets and/or procure new assets, (2) dispose of assets that are uneconomical to repair, or (3) reduce quantities being procured or repaired because of changes in requirements. The ICPS may manually correct or modify an asset's data base if more current or accurate supply information is available.

For repair recommendations, the ICPS generate schedules showing the numbers of assets to be repaired and the dates the assets are needed. When the work year begins, the repair facility receives the unserviceable assets from the supply system, restores them to a serviceable condition, and returns the assets to supply for storage or issue. Repair schedules often change for many reasons: the depots may lack repair parts, the users may return fewer unserviceable assets to the depot than projected, requirements may change, and contractors or depots may encounter technical problems.

If repairing the assets is infeasible or additional assets are needed to support requirements, the JCS release directives to their procurement staffs showing the number of assets needed and when they are required. The procurement staffs begin the process of awarding contracts to produce and deliver the assets as requested. Like repair schedules, procurement directives may be modified whenever changes occur in the requirements for the assets. After production, the new assets are delivered to depots for storage until they are issued, or are shipped directly to the user.

Operation and maintenance appropriations are used to fund depot repair programs. These funds, which are 1-year appropriations, must be obligated on valid orders during the fiscal year in which they are appropriated. In contrast, procurement appropriations, which are 3-year appropriations, may be obligated with valid orders for 3 years. Transferring funds from one appropriation account to another is prohibited without statutory authority. The Congress provided DOD with authority to transfer fiscal year 1990 funds for higher priority needs based on unforeseen military requirements. Similarly, if imbalances exist between repair and procurement requirements, DOD could request Congress to authorize transfer of funds between the two accounts.

Objectives, Scope, and Methodology

The Chairman of the Subcommittee on Readiness, House Committee on Armed Services, asked us to examine the Army's plans for using its unserviceable assets, which included disposal of those assets that could not be reused. Specifically, he asked whether the Army should be screening its unserviceable assets to develop repair programs as an alternative to procuring new assets needed to satisfy user demands.

We performed our work at AMC headquarters and at three of its ICPS—the Aviation Systems Command, St. Louis, Missouri; the Communications-Electronics Command, Fort Monmouth, New Jersey; and the Missile Command, Huntsville, Alabama. We interviewed supply and maintenance officials and item managers; reviewed pertinent DOD and Army regulations, policies, procedures, and internal studies; and analyzed a program MICOM had developed to monitor the buying of assets when unserviceable ones were on hand. Also, we visited Army depots located in Tobyhanna, Pennsylvania, and Corpus Christi, Texas, to verify the location of unserviceable assets and their potential for use in depot repair programs.

Even though the Army had annual plans for repair, we tested whether it was buying assets rather than repairing them at AVSCOM, CECOM, and MICOM. Between June and November 1989, the ICPS identified 815 repairable items with buys in process, valued at \$216.8 million, and with unserviceable assets on hand in depot warehouses. We examined documentation supporting initial buy decisions valued at \$53.4 million and subsequent changes in the asset positions for 140 randomly selected items. We could not evaluate all CECOM's initial decisions because it had recently purged the item files.

After identifying unserviceable assets that could have been repaired, we compared estimated procurement costs with repair costs and computed the potential savings the Army could have achieved if it had repaired the unserviceable assets rather than procured them. Also, for assets that could not be repaired, we examined the Army's plans for disposing of them. Additional details on our methodology for identifying assets and computing potential savings are contained in appendix I.

We used the Army's computer programs, reports, records, and statistics in making our review. We did not independently determine the reliability of the Army's unserviceable asset data base. To assess the adequacy of internal controls, we identified the pertinent requirements for replenishing depleted inventories with new or repaired assets. At each location we visited, we examined the most recent annual assurance statements available to determine whether material weaknesses regarding unserviceable inventories had been reported.

Our work was performed from July 1989 through March 1990 in accordance with generally accepted government auditing standards.

The Army Can Reduce Procurement Costs by Repairing Unserviceable Assets

The Army is purchasing spares and repair parts when it would be more economical to repair available unserviceable assets. This practice is inconsistent with Army policy, which requires unserviceable assets to be repaired whenever the cost to repair them is more economical and readiness-enhancing than purchasing new ones.

For 36 of the 140 items we sampled, the ICPS were buying new assets when unserviceable assets were available for repair. Projecting on the basis of our analysis, we estimate, at the 95-percent confidence level, that between 167 and 285 of the total 815 items being bought could have been repaired for less than the cost of purchasing new assets. By repairing them, the ICPS could have saved \$21.1 million to \$35.9 million, while at the same time enhancing readiness by making the assets available sooner.

Although each item had its own unique reason for not being repaired, we believe that the Army's desire to achieve a high level of stock availability and its desire to fully obligate procurement funds as soon as possible were major contributing causes for buying the items rather than repairing them. These two factors may have inadvertently fostered a presumption on the part of the ICPS that having more than enough stock on hand creates fewer problems and is more important than minimizing investment costs. In our opinion, the impact of this presumption is evident in supply management decisions that tend to favor the purchase of new assets when more economical actions can be taken.

Army Policy Aimed at Minimizing Investment

A logistics policy commonly accepted throughout the defense community is that repairing assets already owned is less costly and takes less time than buying new ones. By returning reparable assets to a mission-ready condition, the Army saves the difference between the procurement and the repair costs and reduces the need for additional stock. Using existing assets that can be repaired allows the Army to avoid the expense of storing excess stock and, because of quicker turnaround times, to enhance readiness.

Although unserviceable assets may be designated as reparable, they must meet certain conditions before they are repaired. Some of the economic and operational considerations include (1) restrictions that limit repair expenditures to less than replacement costs, (2) time requirements for having assets ready for issue, (3) the availability of parts to support repair programs, and (4) the capabilities of repair facilities.

DOD's policy on stocking and determining requirements to support operational and combat readiness provides that the military services will minimize investment costs in ordering and holding inventories. In implementing DOD's policy, the Army supply system relies on the repair and reuse of assets that are economical to repair. For instance, Army Regulation 710-1, "Centralized Inventory Management of the Army Supply System," effective March 1988, requires the ICPS to include unserviceable assets that can be economically repaired and reissued when computing the number of serviceable assets needed to meet forecasted requirements. In addition, it specifies the use of economic order quantities to minimize investment costs for ordering and holding stock.¹

Similarly, Army Regulation 750-1, "Army Materiel Maintenance Policy and Retail Maintenance Operations," effective April 1988, requires unserviceable assets to be reused when, after considering economy and operational effectiveness, repair is more cost-effective than replacement. AMC Regulation 750-51, "Maintenance of Supplies and Equipment," dated April 1987, requires the ICPS to be cost-effective (economical and readiness enhancing) in choosing whether to reuse unserviceable assets or to replace them with new ones. The ICPS are supposed to avoid excessive repair costs by following established expenditure limits and are not to exceed these limits unless a waiver is authorized.²

Opportunities for Minimizing Inventory Management Costs

For the most part, the ICPS had valid reasons for buying new items even though unserviceable ones were available. However, for 36 of the 140 items we sampled, the Army was maintaining economically repairable assets in depot storage that the three ICPS had not used to reduce the number of items being purchased.

After examining supporting documentation and discussing the repair issues with the item managers, their supervisors, and management, we believe that the ICPS could have reduced procurement quantities for the 36 sample items by the number of unserviceable assets on hand that could have been repaired. Buying the new assets could cost the ICPS \$4.8 million more in procurement costs than it would to repair a like

¹The "Economic Order Quantity" principle is a mathematical device used to determine the purchase quantity that will result in the lowest total costs for ordering and holding inventory to meet expected supply requirements.

²Expenditure limits are based upon a percentage of the asset's replacement cost. The Army frequently uses 65 percent of the asset's replacement cost as the limitation for many of its secondary items.

number of unserviceable assets. On the basis of our sample results, we projected, at the 95-percent confidence level, that for the 815 items being bought, the ICPS could have saved between \$21.1 million and \$35.9 million in procurement costs by repairing the available unserviceable assets, rather than buying new ones. Table 2.1 summarizes our analysis of the repair savings in 36 of the 140 buys.

Table 2.1: Comparison of Procurement Costs and Repair Costs for 36 Sample Items

Dollars in millions				
ICP	Number of buys	Procurement cost	Repair cost	Cost savings
AVSCOM	16	\$5.8	\$2.1	\$3.7
CECOM	16	1.5	0.6	0.9
MICOM	4	0.3	0.1	0.2
Total	36	\$7.6	\$2.8	\$4.8

Purchases Initiated With Depot-Level Unserviceable Assets in Storage

Our analysis showed that for 22 of the 36 sample items, assets were reparable at the depot level. The following examples illustrate some of the reasons the ICPS cited for not repairing the assets and our rationale for determining that the assets could have been used to offset the planned buys.

Scroll Assemblies for Helicopter Engines

In November 1988, AVSCOM initiated a buy for 152 scroll assemblies (national stock number (NSN) 2840-00-244-1774). The RDES study showed that 167 unserviceable assets were at the Corpus Christi Army Depot and could be repaired. However, the item manager excluded 117 of the 167 because the item had a "possible very high scrappage rate," i.e., a large portion of the unserviceable assets may not have been suitable for repair. He used only 50, which were in a repair program, to reduce the number of new items being bought. He decided not to schedule another repair program until the contractor provided data on the number of assets that could be repaired.

Notwithstanding his rationale, Army Regulation 710-1 provides that, in the absence of actual data, consideration should be given to setting the number of serviceable assets expected from repair at 100 percent. Thus, the item manager could have used all the 117 unserviceable assets in reducing the number of items being bought.

We estimated total procurement costs for the 117 items at \$384,228, compared to estimated repair costs of \$236,457. Repairing these assets

would have saved \$147,771 and made them available for use 27 months sooner.

At the time of our review in November 1989, the RDES study showed that all 50 scroll assemblies had been repaired. Based upon the October 1989 RDES recommendation to cut back, the item manager canceled the planned procurement and scheduled the other 117 scroll assemblies for repair. According to the item manager, the buy was canceled because program demands had dropped and current requirements could be supported through repair programs.

Receiver Subassemblies for a Tactical Radio System

In December 1987, CECOM initiated a buy for 2,600 receiver subassemblies (NSN 5820-00-087-0061). Documentation was not available to determine how many unserviceable assets were on hand at the time of the buy, but as of September 1989, 5,363 unserviceable items were at Tobyhanna Army Depot. The August 1989 RDES study showed that the item's average repair cost was 65 percent of its purchase price, but the item manager disregarded these assets in computing available stock on hand. According to the item manager, repairing them was too costly.

To document that repair was uneconomical, we asked the item manager to update the average repair cost. After questioning ICP and depot maintenance staff, she found that the repair cost was less than the 65-percent limitation. She initiated a repair program for the unserviceable assets but did not cancel the buy because it was part of a 5-year package program.

At the time of our review, CECOM had 18,619 subassemblies on hand and due in from procurement, exceeding authorized quantities by about 8,000 assets. The 8,000 excess assets represented almost 3 years of stock at a monthly demand of 235.

We believe that the item manager should have canceled the buy because of the excess stock and the large number of unserviceable assets available for repair. Repairing rather than buying would have saved \$236,600 (total procurement costs were \$517,400 compared with estimated repair costs of \$280,800) and would have provided these subassemblies for use about 25 months sooner.

Purchases Initiated With Field-Level Unserviceable Assets in Storage

For 14 of the 36 sample items, unserviceable assets on hand were designated for repair below the depot level (they were field-level reparable). Rather than initiating the repair of these assets, the ICPS ordered new ones to satisfy customer demands. The following example illustrates their actions in choosing not to repair, together with our analysis of why the quantities procured should have been reduced by the number of reparable assets.

Landing Yoke Assemblies for Helicopter Aircraft

In November 1989, AVSCOM had four buys in process for 629 landing yoke assemblies (NSN 1620-01-082-0688). AVSCOM initiated the buys between October 1988 and September 1989. The November 1989 RDES study showed that, of the 255 unserviceable assets in storage primarily at the Lexington-Blue Grass Depot, 191 assets (75 percent) had been disregarded in computing available stock on hand. The item manager said that AVSCOM's policy was to disregard 75 percent of field-level assets in resupply decisions because management believed that unserviceable field-level assets at the depots were beyond economic repair.

This local policy became effective for landing yoke assemblies in December 1988 after AVSCOM determined that the field could repair them. Prior to that, they were repaired at the depots and all unserviceable assets were added to other stock due in and on hand to reduce the quantity of assets being bought in October 1988. Although the assemblies' designation for repair level changed in December 1988 to field-level, all the unserviceable assets were counted in the quantity of stock due in and on hand to offset procurement quantities for the second buy in January 1989 and the third buy in May 1989. RDES did not exclude 75 percent of the unserviceable assets in accordance with AVSCOM's local policy until the fourth buy in September 1989.

Changing the item status to field-level reparable was a sound management decision, but excluding most of the on-hand unserviceable assets because of this change was unreasonable. AVSCOM accepted the repair potential of these assets in reducing the number of new items needed in prior buys. Because this potential had not changed for the unserviceable assets already at the depot, we believe that AVSCOM should have reduced its procurement by the 225 unserviceable assets on hand in November 1989 rather than by 25 percent of the unserviceable assets available.

Procurement costs for the 191 items were \$657,804, compared to estimated repair costs of \$427,649. By repairing the assets, AVSCOM would have saved \$230,155. Also, it took about 27 months longer to procure these assets than it would have to repair them.

At the time of our review, the November 1989 RDES study showed that the stock on hand and due in exceeded the requirements objective by 123 items. We calculated that, with the 191 unserviceable assets on hand, AVSCOM had 314 items above the quantity authorized, about 2.5 years' supply at the average monthly demand of 10.32. AVSCOM did not accept our recommendation to reduce the number of new items being bought, but approved a repair program for fiscal year 1990.

Although we found that the item managers were using lower exclusion rates for some field-level assets, officials in AVSCOM's Materiel Management Directorate told us that its policy applied to all field-level reparables because they expected that very few could be repaired at the depot level. Supply management representatives from the Army's Office of the Deputy Chief of Staff for Logistics and AMC said that they were not in a position to question the validity of AVSCOM's local policy. However, we question whether AVSCOM should arbitrarily establish a low repair rate for unserviceable assets already at the depots unless actual data demonstrates that a low rate is necessary.

MICOM Approach for Minimizing Inventory Costs

MICOM uses RDES to identify situations in which repair would be more appropriate than buying. Its Materiel Management Directorate quarterly matches items due in from procurement with repairable unserviceable assets on hand. Item managers must either justify the procurement or repair the unserviceable assets to offset the buy. According to representatives from the Directorate's Technical Staff Office, this program, begun in 1986, was initiated because the potential existed for buying assets unnecessarily instead of repairing them. The information provided by the program helps to promote greater visibility over assets that could be repaired rather than purchased.

Impact of Stockage Goals and Funding Plans on Stock Management Decisions

During our review, we noted that the Army had directed its ICPS to achieve a high level of stock availability and to fully obligate all or most of available procurement funds before year end. In our opinion, goals for maximizing stock levels and obligating funds for valid requirements can encourage effective supply management. However, the ICPS have not always responded to such goals with a balanced concern for economy when restocking their inventories to meet customer requirements.

During the large-scale military buildup of equipment in the 1980s, the Army responded with aggressive actions to improve readiness by increasing the availability of secondary assets. To do so, the Army

required its ICPS to attain an 85-percent stock availability goal (a measure of how often demands for assets are filled with stock on hand). Table 2.2 shows that, for five of the six ICPS, stockage levels have met or exceeded the 85-percent goal since fiscal year 1986.

Table 2.2: Percentage of Demands Filled by On-Hand Stock

ICP	Fiscal year			
	1986	1987	1988	1989
AMCCOM	86	89	90	89
AVSCOM	77	78	78	80
CECOM	88	88	90	91
MICOM	88	88	88	87
TACOM	84	86	89	86
TROSCOM	87	89	89	92
AMC average	84	86	88	87

Each of the three ICPS we visited had set goals to use the majority of procurement funds appropriated in fiscal year 1990 before the end of that year. The ICPS had no similar goals for obligating operations and maintenance funds for repair because, as 1-year appropriations, the funds must be obligated during the applicable fiscal year.

Stock Management Decisions Inconsistent With Army Policy

Documentation supporting the 140 procurement decisions we examined showed that item managers had not always followed established Army stock policies and regulations. Their decisions sometimes favored procurement actions and showed a reluctance to change such decisions even if the stock was no longer needed. Our analysis illustrated that item managers complied with local management's instructions even when these instructions contradicted the Army's supply policies and regulations for minimizing inventory investment costs.

For example, item managers obtained recommendations from RDES to cut back the procurement quantities for 80 of the 140 sample buys. According to Army Regulation 710-1, when requirements are reduced, cutbacks should be made if they are more economical than continuing the procurement. The item managers cut back 17 procurements (10 of these involved MICOM) but did not include evidence to document their decisions that continuing the buys for the remaining 63 was less costly than cutting them back. On the basis of our analysis, we suggested that the item managers process cutback recommendations in 50 items with quantities due in from procurement totaling \$20.2 million. For seven

buys, they cut back procurement quantities totaling \$5.9 million. However, as the following case illustrates, they relied upon local instructions rather than cost to justify continuing the remaining buys.

In May 1989, AVSCOM initiated the purchase of 78 elapsed time clocks (NSN 6645-01-164-8097) for helicopter aircraft. In November 1989, the RDES study showed that requirements had dropped and that the entire quantity was no longer needed. The item manager did not cancel the buy because he projected that canceling it would have caused another purchase during the first quarter of fiscal year 1991—about 2 years from the date of our review. Army Regulation 710-1 requires the item manager to decide whether the cost to cut back is less than the cost to procure and hold. However, AVSCOM's local instructions allow its item managers to continue buying if a cutback would cause RDES to forecast another purchase during the current or following year. At the time of our review, AVSCOM had 116 clocks on hand and due in from procurement that were above its authorized requirement. This represented about 50 months of stock based on projected average monthly demands.

Item managers at all three ICPS received local instructions to complete action on RDES studies with procurement recommendations before taking action on studies with other stock management recommendations. The ICPS required item managers to maintain inventory sufficient to meet stock availability goals and to make minimal changes to resupply actions already in process. Several item managers told us that they gave priority to studies with procurement actions and, as time permitted, acted upon those with other recommendations.

Manual Adjustments Tend to Emphasize Stock Availability Through Procurement

Our analysis of the item managers' adjustments to RDES supply control studies showed that the adjustments were directed primarily toward improving stock availability by purchasing additional assets. In analyzing RDES studies for 88 of the 140 buys in our sample (studies for the remaining 52 buys had either been destroyed or had never been generated), we observed a tendency on the managers' part not to accept the automated recommendations.

For example, the studies showed 64 "buy" recommendations and 24 "no-buy" recommendations—5 recommending repair, 15 recommending cutbacks, and 4 recommending no purchase because requirements and inventory were in balance. The item managers accepted 27 recommendations with no changes, or about 31 percent. For the remaining 61, they "manually" changed the recommended procurement

quantities in 37 buys (decreasing 15 and increasing 22), and changed all 24 "no-buy" recommendations to "buy" actions.

In our opinion, some manual adjustments should be anticipated as a result of normal file maintenance, such as when the item manager has more current data available on requirements than RDES has in making a supply recommendation. Item managers and their supervisors told us that adjusting study recommendations was necessary because the RDES data base did not always contain current data. However, we reviewed subsequent studies at AVSCOM to test whether the changes had been later incorporated into the RDES data base. Of the 30 studies that were manually adjusted, changes were incorporated in only 11.

Conclusions

The Army is not using its on-hand unserviceable stock to the maximum extent possible to achieve maximum readiness at minimal investment costs. Because top management's goals imply that acceptable stock management means having enough inventory to satisfy customer requisitions in almost all instances and never being out of stock or never failing to obligate procurement funds, the ICPS have not always made economical and efficient decisions in restocking their supply inventories. ICP guidance further reinforces that message to item managers, who are required to decide how best to meet these goals in restocking the Army's inventories.

To help make sound investment decisions, item managers have the RDES, which tracks an item's supply position and tells them when an action is required and what that action should be. However, our analysis indicated that item managers frequently made manual changes to the automated RDES recommendations in order to improve stock availability by purchasing additional assets. Such practices undermine the integrity and usefulness of the RDES. MICOM has been successful in using the RDES to monitor buys in process of items for which assets are on hand to determine whether items are being bought unnecessarily. AMC should determine whether MICOM's approach could be implemented at other ICPS.

Because of its emphasis on the availability of supplies and the early obligation of funds, the Army has missed opportunities to maximize the use of its unserviceable inventory. On the basis of our analysis, we estimate that the three ICPS could have saved millions in procurement costs by repairing on-hand unserviceable assets rather than buying new ones. When the Army repairs existing inventory rather than buying what it needs, it reduces procurement costs and improves military readiness

because repairing takes less time and assets are available for customer use sooner.

Recommendations

We recommend that the Secretary of the Army direct the Commander of AMC to take the following actions:

- Establish the means to monitor the ICPS' compliance with Army policy and regulations that require unserviceable assets to be repaired when it is more economical than purchasing new ones.
- Evaluate the program developed by the Army's Missile Command to match assets due in from procurement with on-hand unserviceable assets and determine whether the other ICPS should be using it.

Agency Comments and Our Evaluation

The Department of Defense concurred with our recommendations and noted that, within 90 days, the Secretary of the Army will direct the Commander of the Army Materiel Command to take the recommended actions. DOD said that AMC compliance review teams were visiting the ICPS to evaluate compliance with supply management policy and procedures. DOD also said that one of these review teams would evaluate the Army Missile Command's program for managing buy or repair decisions as part of a planned supply management review.

DOD partially concurred with our estimate of procurement cost savings resulting from repairing assets rather than buying new ones. Although DOD agreed that there would be some savings, it suggested that field-level assets cannot be economically repaired at depots and that initiating repair programs would have been either impractical or uneconomical for small quantities of these types of unserviceable assets.

We believe that our estimate of cost savings is valid. We agree with DOD that repairing unserviceable assets at the lowest maintenance level possible generally is the most cost-effective approach. However, the Army sometimes performs field-level repairs at the depots if repair requirements cannot be satisfied at lower-level facilities. We included these assets in the estimate of procurement savings because (1) the unserviceable assets were already in depot storage facilities without any apparent restrictions on repairing them, (2) the Army had not considered the potential for repairing them in its decisions to purchase new assets, and (3) the estimated costs to repair them did not exceed established maintenance expenditure limits.

In scheduling repair programs for unserviceable assets, the Army must consider several factors in addition to the unserviceable assets available in depot storage, such as the number of assets projected to become unserviceable before a repair program is initiated, the asset's dollar value, and customer demands for serviceable assets. Notwithstanding the actual scheduling of repair programs, Army Regulation 710-1 requires item managers to reduce purchases of new assets by the number of unserviceable assets which are available to be repaired. Therefore, based on this requirement, we included unserviceable field-level assets sent to the depot for repair in our procurement savings estimate.

The Army Can Increase the Disposal of Assets in Storage

The Army is storing considerable amounts of reparable and consumable assets that should be disposed of. For example, for 30 of our sample 140 reparable items, we found that unserviceable assets on hand were candidates for disposal because they were uneconomical to repair. At the time of our review, item managers had not disposed of these assets because, under current Army policies, they believed that as long as the assets were applicable to an active weapon system, they could hold on to them. Although Army policies require keeping stock that applies to these weapon systems, they also permit disposal if the assets are uneconomical to repair or if storage space becomes crowded. Holding on to unserviceable assets unnecessarily contributes to the overcrowding of storage facilities and increased costs to operate and maintain them.

Unserviceable Assets in Army Depots

To effectively manage unserviceable inventories, item managers must examine the circumstances surrounding the need for each asset in determining whether to repair the asset or to dispose of it. In making this decision, item managers need to know whether the Army has either repaired the asset in prior years or has plans to repair it. We asked AMC's Depot System Command to identify the dollar value of unserviceable assets held in inventories in fiscal years 1988 and 1989 that had no past or present repair program for those years. As table 3.1 shows, the Army is holding a significant amount of unserviceable assets with no plans to repair them.

Table 3.1: Value of Army Unserviceable Assets With No Past or Present Repair Program

Dollars in millions		
Type of asset	Fiscal year	
	1988	1989
Depot-reparable	\$892.7	\$949.1
Field-reparable	300.8	161.1
Consumable	30.7	17.3
Unknown	237.6	259.5
Total	\$1,461.8	\$1,387.0

As shown by the table, the dollar value of the four categories of unserviceable assets with no past or present repair program has decreased from fiscal year 1988 to fiscal year 1989, particularly for inventories of field-level reparable and consumable items. On the other hand, the inventories of depot-reparable items and items for which the repair level is unknown have increased during the same period.

Our review offers some insight into the actions the Army should take regarding unserviceable assets designated as either reparable or consumable. However, for those assets which have no known designation, the Army has to first determine whether the assets are reparable or consumable before a decision can be made to keep them in storage at its depots or dispose of them.

Opportunities to Dispose of Some Reparable Assets

Unserviceable assets designated for repair can be disposed of if, for instance, the Army finds that the costs to repair them are greater than the costs to replace them. Item managers had data showing that, in 30 of our sample 140 items, unserviceable assets valued at \$485,391 were beyond economic repair, but they had not taken any actions to dispose of them. When we suggested that they dispose of these assets, they agreed to initiate disposal actions for 19 items with assets valued at \$356,255. They decided to hold the others on the basis that a need could arise for them. The following examples illustrate this condition.

In August 1989, MICOM had nine electrical components (NSN 5999-01-018-9789) in storage for the Tube-Launched, Optically-Tracked, Wire-Guided (TOW) system, which were valued at about \$4,600. The Army had designated them as field-level reparables. According to MICOM management, MICOM's maintenance staff determined that repairing these assets would be too costly. After we questioned the need to retain these assets, the item manager agreed with our suggestion to dispose of them and initiated action in September 1989.

In December 1989, AVSCOM had 14 turbine rotors for helicopter engines—a part associated with a turbine nozzle (NSN 2840-01-295-8125). These rotors, valued at \$70,000, were in storage at the Red River and Lexington-Blue Grass Army depots. The item manager had determined that these rotors could not be modified to meet current configuration specifications, but she had taken no action to dispose of them. We pointed out that the rotors had no repair potential, and after we discussed it with the item manager, she agreed to dispose of them in November 1989. However, her supervisor decided to retain the rotors because AVSCOM had not yet designated the items as obsolete or fully evaluated them for potential use.

Consumable Assets Should Be Disposed of

Army supply management policies provide that consumable assets are not intended for repair. They generally should be disposed of once they become inoperative. However, the information provided by the Depot

System Command disclosed that, as of September 1989, the Army had unserviceable assets valued at \$17.3 million which were designated as consumable assets. Although our statistical sample was limited to the 140 repairable assets, we did judgmentally select 21 consumable assets, valued at \$701,065 in the three commands' inventories, to test the Army's rationale for holding them in storage.

For 13 of these assets, valued at \$174,153, we found that the item managers had not justified holding them in storage. They agreed with our suggestions to dispose of them. The following example illustrates that most of these types of assets should not have been held in storage.

In September 1989, CECOM had 166 unserviceable reel unit cables (NSN 8130-00-656-1090), valued at \$16,600, which were used in tactical communication systems. RDES inventory records showed that the most recent supply activity for the majority of the cables occurred in February 1989. In reviewing the case file, we found no reason for holding the cables at the Tobyhanna Army Depot and suggested to the item manager that disposing of them appeared proper. The item manager initiated disposal of these cables after her supervisor agreed that CECOM had no reason to keep them.

Factors Contributing to Keeping More Stock in Storage Than Necessary

We identified several reasons why item managers had not disposed of unserviceable assets that they had no justification to keep. Item managers at the three inventory control points we visited gave us the following rationale for their actions:

- Changes in asset disposal policies during the 1980s contributed to the holding of assets in storage even though there were no plans to repair them. The changes caused a surge in inventory levels at the depots that resulted in serious storage problems. The Army recently initiated actions to increase disposal of unneeded materiel in order to alleviate depot storage problems.
- There was confusion over what assets the item managers could dispose of as long as they believed that Army Regulation 710-1 would not allow the disposal of assets applicable to an active weapon system. Item managers were unaware that this regulation authorizes such disposal if assets are uneconomical to repair or if storage space becomes crowded.
- Disposal actions had low priority and were time-consuming to perform because of the manual administrative processing required to initiate them. Additionally, before a disposal action could take place, Army

depot staff were supposed to challenge the recommendations to ensure that no requirements existed for the assets.

Keeping Stock Unnecessarily Can Increase Costs and Impair Readiness

According to Army studies, overcrowded warehouses can increase inventory costs and adversely affect readiness. The Army has determined that, with an 85-percent occupancy rate, its depots have reached the maximum efficient capacity. According to Army space management reports, however, depots reached that capacity by September 1985 and, as of September 1989, have remained at or exceeded it.

AMC space management reports show that, since 1985, average use has exceeded the maximum rate and, as of September 1989, averaged 86 percent. Another report showed that, as of March 1990, AMC's three major supply depots have reached 95-percent capacity, but two of the three, New Cumberland and Red River, are at or above 99-percent occupancy.

Holding on to more stock than necessary is costly. For instance, according to the Army, the annual cost associated with storing and maintaining stock is equal to 13 percent of the value of the on-hand inventory. Also, operating costs are increased when inventory must be shifted around to locate needed stock and when orders must be filled from multiple storage sites. Likewise, readiness is adversely affected because delivery times increase and stock is unavailable when needed.

Actions to Encourage Increased Asset Disposal

Aware of warehouse space problems, DOD and the Army have initiated actions to improve methods of determining whether to retain assets for repair or to dispose of them. For example, in November 1988, AMC directed its ICPS to examine their unserviceable inventories with no past or current repair programs and to dispose of unneeded assets.

In his March 1990 testimony before the Senate Committee on Governmental Affairs, the Deputy Secretary of Defense said that, beginning with unserviceable and obsolete items, materiel returned to the depots as a result of restrictive retention policies would be reduced. Through its Defense Management Review, DOD is seeking to encourage greater disposal. For its part, the Army has proposed the following actions:

- Dispose of stock that it has previously retained on the basis that disposal was neither feasible nor economical. These types of assets are known as "numeric retention-level" stocks.

- Prohibit field units from returning assets with a dollar value of \$50 or less.
- Reduce the inventory of obsolete end items.

DOD is working on an implementation plan it expected to complete by September 30, 1990. According to officials in AMC's Office of the Deputy Chief of Staff for Supply, Maintenance, and Transportation, these proposals could result in the disposal of millions of dollars of unneeded assets and could help prevent the unserviceable inventory from growing.

The Army's efforts to encourage the disposal of unneeded items have brought about increases in the value of assets disposed. For example, as shown in table 3.2, the value of disposed inventory increased from a low of \$7.0 million in fiscal year 1985, at the height of restricted disposal, to \$524.5 million in 1989.

Table 3.2: Dollar Value of Disposed Assets

Dollars in millions	
Year	Value
1985	\$7.0
1986	19.9
1987	498.5
1988	319.0
1989	524.5

To implement AMC's initiatives and to help its item managers identify items for disposal, MICOM has developed an automated system to identify unserviceable assets that were (1) not repairable after use, (2) designated as below-depot-level repairable items with no planned repair program, or (3) above authorized retention levels. MICOM's Materiel Management Directorate Technical Staff Office developed this system at an estimated cost of about \$34,000 to automate the administrative process for identification and disposal of unneeded assets. At MICOM's suggestion, AMC is evaluating whether such a system should be incorporated by all the ICPS.

Conclusions

Our review indicates that the Army is holding unserviceable assets that it may never repair. It has an inventory of unserviceable assets valued at about \$1.4 billion that has not been included in prior or current repair programs. Because the Army is concerned that storage warehouses are

exceeding maximum efficient capacity, it has recently taken initiatives to increase the disposal of unneeded stock. However, some item managers are relying on their belief that current asset retention policies justify holding these assets despite the need to alleviate storage capacity problems.

Our analysis indicates that, to make effective inventory management decisions, the Army must encourage its item managers to identify unserviceable assets that are candidates for disposal and initiate action accordingly. MICOM has already proposed and developed an automated means to help item managers identify unneeded stock and to initiate disposal action. Because AMC is currently evaluating this proposal, the Army needs to determine whether it provides all its ICPS with the type of automated assistance that will encourage greater disposal of unserviceable assets that the Army does not intend to repair.

Recommendations

We recommend that the Secretary of the Army direct the Commander of AMC to take the following actions:

- Clarify to item managers that existing regulations allow them to dispose of items the Army (1) has determined to be uneconomical to repair or (2) does not plan to include in a repair program.
- If MICOM's program to identify candidates for disposal proves unacceptable, develop an effective automated procedure for use Army-wide that will identify and initiate the disposal of assets that the Army does not plan to repair.

Agency Comments and Our Evaluation

The Department of Defense agreed with our recommendations. DOD stated that the Secretary of the Army, within 90 days, will direct the Commander of the Army Materiel Command to take the recommended actions.

In commenting on our findings, DOD stated that a June 1990 change in its retention policy will prompt additional inventory reductions by disposing of assets which are not essential to the operation of a weapon system. DOD noted that AMC is monitoring how well the ICPS are managing stock disposal actions and is planning to implement RDES changes in fiscal year 1991 to improve the disposal of unneeded stock. DOD said that, in addition to the Army Missile Command's program, other system changes will be evaluated as a means to improve automated disposal procedures. DOD also said that implementing such improvements could

Chapter 3
The Army Can Increase the Disposal of
Assets in Storage

depend upon available funding and whether DOD decides to replace the Army's materiel management systems with other DOD-wide interim systems.

Internal Controls Should Be Strengthened to Preclude Recurring Inventory Management Deficiencies

The issues relating to the Army's practices of buying new assets instead of repairing unserviceable ones and holding unneeded stock are not new. Congressional investigations, DOD studies, and Army Audit Agency and GAO reports have identified similar issues and numerous others that result in stock management inefficiencies. Although DOD and the Army have taken some corrective measures, our review indicates that effective follow-up actions are needed to ensure that planned improvements are implemented.

Recurring Problems Have Not Been Corrected

The Federal Managers' Financial Integrity Act (31 U.S.C. 3512(b) and (c)) requires agency management to have adequate internal controls to ensure effective control and accountability for the agency's assets. Therefore, the Army must ensure that the government's inventory investments are prudent and that assets are properly used or disposed of when no longer needed. An important step in strengthening internal controls is verifying that planned actions have been implemented as envisioned and that corrective actions have been effective.

During our review, we found that prior studies and audits had documented that the Army had not acted promptly to encourage compliance and to promote inventory management practices that balance economy with readiness goals. Needed corrective actions have been thoroughly identified but, by not following through on them, the Army has lost opportunities to effectively manage many aspects of its inventory, including the repair of existing assets and disposal of unneeded materiel. Because of the large volume of studies and reports on these issues, we have selected some examples to illustrate the long-standing nature of the conditions discussed in this report.

Unserviceable Inventories Without Repair Programs

A 1987 House Surveys and Investigations Staff report on Army depot maintenance operations found that, as of September 1986, the Army's inventory of unserviceable assets was valued at about \$5.6 billion, of which about \$1.1 billion had no past or planned depot repair program. The report concluded that the Army's apparent overreaction to DOD's moratorium on property disposal had caused many field-level reparable assets to accumulate at the depots and that three ICPS were buying new assets without attempting to repair unserviceable ones. DOD agreed that tightening retention policies had caused a surge in assets at the depot level, which contributed to some loss of in-transit visibility and an imbalance of procurement and repair actions. However, in DOD's view,

the situation had stabilized, and item managers routinely reduced or canceled procurement actions whenever repair was feasible.

In November 1986, AMC's Commander became concerned about uneconomical supply management practices and tasked AMC's Army Materiel Readiness Support Activity to study the causes of excess stock at the depot level. Noting the backlog in unserviceable inventories with no repair programs, the Activity's October 1987 report identified a number of causes, among which were discontinuing the automatic disposal of unneeded materiel and creating the numeric retention level to avoid the disposal of unneeded stock. Also, Army restrictions on the disposal of unneeded stock was creating storage problems. The Activity made 14 recommendations to help preclude the generation of excess assets.

Filling Customer Orders and Obligating Funds

In March 1990, the Deputy Secretary of Defense told the Senate Committee on Governmental Affairs that the culture in inventory management, which sometimes resulted in overbuying to ensure that DOD customers were never found wanting, must be reformed if DOD was to have an efficient and effective supply management system. Also he said that, as part of several initiatives to reduce what DOD buys, annual purchases were no longer authorized.

In its 1988 report, the Senate Committee on Governmental Affairs concluded that the provision of far more money for supplies than the services could efficiently spend had generated a significant increase in assets that exceeded military requirements. The Committee noted that both military officers and civilian employees had stated that more money was available than could be intelligently spent and, rather than maximizing their needs, the services over-purchased—illustrating their desire and need to obligate all their appropriated funds before the end of the fiscal year.

In its December 1988 Report of Audit of the Requirements Determination and Execution System at the Army's Armament, Munitions and Chemical Command, the Army Audit Agency noted that item managers were not using the system as effectively as possible to manage secondary items. Their supply management actions were influenced by their general perception that it was better to have too much stock on hand than to risk not being able to satisfy customer demands. As a result, they frequently did not respond appropriately to RDES studies to reduce or cancel planned purchases. The Command agreed with audit

recommendations to improve the item managers' use of the automated system. The recommendations included requiring supervisors to more closely review manual adjustments to studies, particularly those done to avoid making recommended reductions in planned purchases.

The Army Audit Agency, in a May 1986 Report of Audit on the Requirements Determination and Execution System at the Army's Tank-Automotive Command, stated that item managers there also did not make the most effective use of the automated system. Their supply management decisions were directed primarily toward improving stock availability and often were done at the expense of supply economy. The report showed that they had not followed RDES recommendations for 94 percent of the items reviewed and that their alternative decisions initiated about \$5.1 million in unnecessary acquisitions. Moreover, they generally did not update the RDES data base and were reluctant to act on cutback recommendations. The Command agreed with audit recommendations which included (1) requiring supervisors to more closely review the item managers' adjustments to automated studies and (2) establishing a feedback system to monitor the effectiveness of the automated requirements system and the item managers' responsiveness to recommended actions.

Need for Management Emphasis on Economy

In prior reports, we have made numerous specific recommendations to improve the services' inventory management practices. In a recent report, Army Inventory: Growth in Inventories That Exceed Requirements (GAO/NSIAD-90-68, Mar. 1990), we concluded that the Army was buying and maintaining more inventory than it needed to meet military requirements. We recommended that the Army establish a systematic approach to aggressively pursue cutback and cancellation recommendations and dispose of unneeded stock. DOD cited several corrective measures to improve this situation, including automated procedures to help item managers decide when it was economical to reduce or cancel purchases in process.

Another recent report, Defense Inventory: Top Management Attention Is Crucial (GAO/NSIAD-90-145, Mar. 1990), summarizes past work we have done on DOD's inventory management and several DOD actions to improve supply management activities. In that report, we identified critical actions DOD should take to improve the defense supply system. Foremost among these actions was top management's need to focus on economy and efficiency. In addition, we reported that top management must follow up on planned corrective actions to ensure successful implementation.

Compliance Needed With Existing Policy and Guidance

Existing DOD and Army policy and guidance appear sufficient to promote maximum readiness at the least possible cost and to dispose of unneeded stock. However, local guidance and emphasis on filling customer orders and obligating funds are undermining DOD's goal to have the right part at the right place at the right time without incurring unnecessary costs. Resolving these problems will require compliance with existing policies and regulations and a greater emphasis on economy and efficiency than currently exists.

As required by the Federal Managers' Financial Integrity Act, the Army is annually required to review and report on its internal control systems. Weaknesses in controls are considered "material" when, among other things, they exist in a majority of agency components and risk or result in the loss of at least \$10 million. AMC's assessment of internal controls for fiscal years 1988 and 1989 did not identify the potential savings to be achieved by deferring the purchase of new assets when unserviceable assets are on hand. The 1988 assessment noted that the problem of overcrowded storage space did not warrant reporting to Army headquarters, but that it was a continuing concern for AMC.

Likewise, none of the three ICPS we visited had reported these issues as material weaknesses in their reports on internal controls. AVSCOM did identify insufficient staff as a material weakness and as a reason for (1) not properly using RDES studies and (2) not processing many recommendations to cut back procurement or declaring items excess.

Conclusions

The Army is not effectively managing its unserviceable inventory to maximize reuse through repair and to dispose of unneeded stock. Although existing policy and guidance require economy and efficiency in decisions to repair, buy, or dispose of items, the long-standing emphasis on filling customer orders and obligating funds shows that the Army has not corrected problems that prior audits have identified.

Timely and responsive action to correct these deficiencies is required by internal control standards. The Army's resolution of these problems should have been prompt and the corrective actions adequately monitored to ensure that the improvements needed for an effective, efficient, and economical Army supply system were made.

To ensure that a disciplined internal control system is maintained, the Army must require compliance with its policies. AMC is resuming on-site reviews to monitor compliance and that should help determine the

extent to which the ICPS have improved their management of unserviceable inventories.

Recommendation

We recommend that the Secretary of the Army direct the Commander of AMC to regularly follow up on planned corrective actions that have responded to audit findings and recommendations to ensure that the actions have been successfully implemented.

Agency Comments and Our Evaluation

DOD agreed with our recommendation to follow up on corrective actions in response to audit findings and recommendations. DOD said that the Secretary of the Army will direct the Commander of the Army Materiel Command to implement the recommendation within 90 days.

DOD acknowledged that deficiencies in AMC's management of unserviceable inventories is a material weakness in the Army's system of internal controls, but indicated that this weakness was a subset of a larger material weakness on inventory excess and growth that has already been reported and for which corrective action is planned. According to DOD, these corrective actions will address the growth of excess inventory, unnecessary procurements, and ineffective use of inapplicable assets (categories of assets above current operating requirements), including unserviceable inventories.

We continue to believe that the potential for reducing inventory costs through better use of existing assets is an area that should not be obscured among the many issues that affect sound supply management. However, because the Army believes that AMC will give this area the top management attention needed to bring about improvements in the Army's decisions to repair unserviceable assets instead of buying new ones and to dispose of unneeded stock, we now agree that separate reporting on this internal control deficiency is not needed.

Methodology for Identifying the Procurement of On-Hand Assets and for Computing Potential Savings

To identify items most likely to be procured while already on hand, we requested the three ICPS to screen their unserviceable inventories and match reparable assets on hand and not scheduled for repair with buys in process. To eliminate items for which a small number of unserviceable assets would have no impact on procurement, we excluded items for which the on-hand inventory was less than 10 percent of the procurement quantity. Also, we adjusted total procurement dollars for our sample because our review showed that, for some items, the Army had not identified the total number of item quantities that were being procured. These inconsistencies in the data base were not significant enough to affect our sample methodology, but we added the quantities and dollar amounts to our sample to correct for them.

After making these adjustments, we computed the savings in procurement costs for items that the ICPS could have repaired to reduce or cancel procurement. First, we calculated the number of assets that could be repaired by multiplying the total number of assets on hand by the Army's final "recovery rate" (that is, the percentage it expects to repair) for that specific item. We then multiplied this number by the item's estimated repair cost to determine total repair cost. Likewise, for total procurement costs, we multiplied this number by the item's most recent unit price.

As a result of our work, we projected statistically that chances are 19 out of 20 (95 percent) that between 167 and 285 reparable items at the three ICPS had assets that could have been repaired for less than the costs of purchasing new items. Also, we projected that chances are 19 out of 20 that between \$21.1 million and \$35.9 million could be saved by repairing the unserviceable assets. Table I.1 summarizes the results of our analyses.

**Appendix I
Methodology for Identifying the Procurement
of On-Hand Assets and for Computing
Potential Savings**

Table I.1: Estimated Procurement Savings Resulting From Repairing Unserviceable Assets

ICP	NSN	Item name	Number of assets	Procurement cost	Repair cost	Cost difference
AVSCOM	6625-00-133-7891	Transducer	1	\$12,042	\$1,927	\$10,115
	2840-00-244-1774	Scroll Assembly	117	384,228	88,372	295,856
	2945-00-109-2364	Particic Separator	43	83,893	20,134	63,759
	1560-00-152-3463	Passenger Panel Assembly	23	29,371	7,049	22,322
	1650-00-907-1796	Cylinder Assembly	44	33,660	8,078	25,582
	8145-01-128-1739	Rotor Head Container	25	106,250	23,375	82,875
	2840-01-295-8125	Turbine Nozzle	54	2,993,922	1,578,582	1,415,340
	5945-01-289-2695	Relay Assembly	9	58,950	12,380	46,570
	1620-01-082-0688	Landing Yoke Assembly	191	657,804	151,295	506,509
	1630-01-089-2873	Landing Gear Wheel	101	74,538	17,889	56,649
	1560-01-231-1755	Aircraft Floor Assembly	4	22,332	4,913	17,419
	1560-01-246-6760	Gunners Window	34	72,114	16,586	55,528
	2840-00-960-0174	Manifold Assembly	50	172,750	39,733	133,017
	1615-00-057-1827	Main Grip Assembly- Main Rotor Blade	70	250,390	57,590	192,800
	1610-00-001-4129	Propeller Blade and Heater	9	831,645	99,797	731,848
	1620-00-939-6418	Nose Landing Gear Actuator	8	7,800	1,128	6,672
CECOM	6625-01-072-4610	Circuit Card Assembly	3	2,355	1,178	1,177
	5840-01-072-4600	Circuit Card Assembly Firefinder	10	15,680	6,272	9,408
	6625-01-088-9514	Circuit Card Assembly	5	3,520	1,760	1,760
	5840-00-970-9078	Generator Assembly	6	2,418	1,209	1,209
	6625-01-030-5341	Ammeter	5	2,210	1,105	1,105
	4895-01-197-4604	Circuit Card Assembly	13	36,257	14,503	21,754
	5895-01-165-7317	Punch Head Assembly	33	433,785	130,136	303,649
	5895-01-050-0717	Switching Unit	4	104,568	31,370	73,198
	5805-01-186-3664	Digital Conference Unit	1	3,500	1,400	2,100
	5805-00-876-9571	Carrier Support Selector	4	1,828	914	914
	6130-00-135-4570	Power Supply	23	38,732	15,493	23,239
	5820-00-087-0061	Receiver Subassembly	2,600	517,400	280,800	236,600
	5895-01-090-9439	TWT Simulator	10	181,250	54,375	126,875
	5985-00-631-4778	Radio Frequency	10	87,000	34,800	52,200
	5905 01 120 3125	Circuit Card Assembly	10	9,800	4,900	4,900
	5895-01-044-5332	Electric Test Set	15	21,000	8,400	12,600
MICOM	6150-01-136-8857	Cable Assembly	4	9,964	2,092	7,872
	6650-07-120-0433	Navigator Computer	46	268,686	92,506	176,180

(continued)

Appendix I
Methodology for Identifying the Procurement
of On-Hand Assets and for Computing
Potential Savings

ICP	NSN	Item name	Number of assets	Procurement cost	Repair cost	Cost difference
	4810-00-886-3044	Solenoid Valve	4	6,540	1,831	4,709
	6150-01-123-3982	Cable Assembly	13	6,500	2,470	4,030
Total				\$7,544,682	\$2,816,342	\$4,728,340

Comments From the Department of Defense

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



PRODUCTION AND
LOGISTICS
L/SD)

ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301-8000

September 25, 1990

Mr. Frank C. Conahan
Assistant Comptroller General
National Security and International
Affairs Division
U.S. General Accounting Office
Washington, DC 20548

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "ARMY LOGISTICS: Better Management of the Army's Unserviceable Inventories Could Save Millions," dated July 30, 1990 (GAO Code 393354, OSD Case 8434). The Department agrees that, when practical and economical, available unserviceable inventory should be repaired instead of buying new items. The DoD further agrees with the need to dispose of assets that are uneconomical to repair.

As observed by the GAO, the Army generally complies with repair versus buy decision guidelines and often Army inventory control points have valid reasons for buying new items even though unserviceable ones are available. The Department nevertheless recognizes, however, that inventory efficiencies can be achieved by emphasizing the cost effective repair of unserviceable items and, where repair is not appropriate, inventory reductions can be achieved through more aggressive disposal actions.

Detailed DoD comments on the report findings and recommendations are provided in the enclosure. The Department appreciates the opportunity to comment on the draft report.

Sincerely,

David J. Berteau
David J. Berteau
Principal Deputy

Enclosure

GAO DRAFT REPORT - DATED JULY 30, 1990
GAO CODE 393354 - OSD CASE 8434

"ARMY LOGISTICS: BETTER MANAGEMENT OF THE ARMY'S UNSERVICEABLE
INVENTORIES COULD SAVE MILLIONS"

DEPARTMENT OF DEFENSE COMMENTS

* * * * *

FINDINGS

- **FINDING A: Army Supply System.** The GAO observed that Army forces world-wide must have a continuous resupply of assets to support operational and combat readiness requirements. The GAO noted that, to meet the demand, the Army maintains a large inventory of assets (1) to replenish stock depleted through day to day operations and (2) to replace equipment parts that become inoperative through normal use. The GAO further observed that the Army Materiel Command administers the Army supply system and establishes management policies and procedures for its six inventory control points.

The GAO explained that the six Army inventory control points are (1) the Armament, Munitions and Chemical Command, (2) the Aviation Systems Command, (3) the Communications-Electronics Command, (4) the Missile Command, (5) the Tank-Automotive Command, and (6) the Troop Support Command. According to the GAO, to satisfy user demands, those inventory control points forecast stock requirements and initiate supply actions to ensure that sufficient assets are available when needed.

The GAO emphasized that Military capability can be hindered if assets are not available when users need them. The GAO noted that the inventory control points are, thus, challenged to maintain adequate asset inventories in a mission-ready condition through timely, effective, and economical resupply actions. The GAO stressed that, if on-hand stock is insufficient, the inventory control points cannot meet customer demands. The GAO also emphasized, however, that on the other hand, if too much stock is maintained, resources may be used to buy and hold assets that may never be required. The GAO concluded that, in either case, the Army incurs higher than necessary investment costs to maintain its supply inventory.

Now on pp 3, 8.

The GAO reported that, as of September 1989, the Army inventory control points managed about \$14.4 billion worth of secondary assets. The GAO explained that secondary assets include spare parts, repair parts, and supplies for principal assets such as helicopters, tanks, vehicles, and weapon systems. The GAO calculated that, of the total amount, \$9.3 billion represented new, repaired, or reconditioned assets ready for issue to users. According to the GAO, the remaining \$5.1 billion represented unserviceable assets--that is, assets awaiting repair or disposal. The GAO indicated that the Army received about \$1.5 billion in FY 1990 to purchase new assets and about \$1 billion to repair unserviceable assets. (pp. 2-3, pp. 11-15/GAO Draft Report)

DOD RESPONSE: Concur.

- FINDING B: Army Policy is to Minimize Investment. The GAO observed that a logistics policy commonly accepted throughout the defense community is that repairing assets already owned is less costly and takes less time than buying new ones. The GAO noted that, by returning repairable assets to a mission-ready condition, the Army saves the difference between the procurement and the repair costs and reduces the need for additional stock. The GAO observed that using existing assets that can be repaired allows the Army to avoid the expense of storing excess stock and, because of quicker turnaround times, to improve its readiness position.

The GAO pointed out that although unserviceable assets may be designated as repairable, the assets must meet certain conditions before being repaired. According to the GAO, some of the economic and operational considerations include (1) restrictions that limit repair expenditures to less than replacement costs, (2) actual time requirements for having assets ready for issue, (3) the availability of parts to support repair programs, and (4) the capabilities of repair facilities.

The GAO indicated that the DoD policy on stocking and determining requirements to support operational and combat readiness provides that the Military Services will minimize investment costs in ordering and holding inventories. The GAO found that, in implementing the DoD policy, the Army supply system relies on the repair and reuse of assets that are economical to repair. The

GAO referred to Army Regulation 710-1, "Centralized Inventory Management of the Army Supply System," effective March 1988, which requires the inventory control points to include unserviceable assets that can be repaired and reissued when computing the number of assets needed to replenish depleted stock levels. The GAO also pointed out that Army Regulation 710-1 also specifies the use of economic order quantities.

The GAO explained that the "Economic Order Quantity" principle is a mathematical device used to determine the purchase quantity that will result in the lowest total costs for ordering and holding inventory to meet expected supply requirements, thus minimizing investment costs. The GAO also referred to Army Regulation 750-1, "Army Materiel Maintenance Policy and Retail Maintenance Operations," effective April 1988, which requires unserviceable assets to be reused whenever repair is more cost-effective than replacement. In addition, the GAO indicated that Army Materiel Command Regulation 750-51, "Maintenance of Supplies and Equipment," dated April 1987, requires the inventory control points to be cost-effective in choosing whether to reuse unserviceable assets or to replace them with new ones. The GAO noted that the inventory control points are supposed to avoid excessive repair costs by following established expenditure limits. According to the GAO, the expenditure limits are based upon a percentage of the asset's replacement cost. The GAO observed that the Army frequently uses 65 percent of the asset replacement cost as the limitation for many of its secondary items. The GAO explained that the inventory control points are not to exceed these limits unless a waiver is authorized. (pp. 3-4, pp. 18-20, pp. 29-30/GAO Draft Report)

DOD RESPONSE: Concur. It should be recognized, however, that Army supportability policy continues to be readiness driven, optimized by minimum investment levels. Repair is faster than procurement when there is an available, funded maintenance capability. Also, maintenance is dependent on an adequate number of unserviceables to justify workload priority cost effectively. The absence of any of these factors can extend the repair lead time beyond the procurement lead time. Accordingly, inventory control point decisions to buy vs. repair are based on multiple factors and constraints, not solely on minimum investment criteria.

Now on pp. 9, 10, 13, 14.

See comment 1

• **FINDING C: Opportunities for Minimizing Inventory Management**

Costs. The GAO observed that, for the most part, the inventory control points had valid reasons for buying new items, even though unserviceable ones were available. The GAO found, however, that for 36 of the 140 items it sampled, the Army was maintaining economically repairable assets in depot storage the inventory control points had not used to reduce the number of items being purchased.

The GAO examined supporting documentation and discussed the repair issues with the item managers, supervisors, and management. The GAO concluded that the inventory control points could have reduced procurement quantities for the 36 sample items by the number of unserviceable but repairable assets on hand. The GAO estimated that buying the new assets could cost the Army \$4.8 million more in procurement costs than it would to repair a like number of unserviceable assets. The GAO projected (at the 95-percent confidence level) that, for the 815 items being bought, the inventory control points could have saved between \$21.1 million and \$35.9 million in procurement costs by repairing the available unserviceable assets, rather than buying new ones. (pp. 4-5, pp. 20-25, pp. 29-30/GAO Draft Report)

DOD RESPONSE: Partially concur. The Department agrees that some, but not all of the 36 items in the GAO sample should have been repaired rather than purchased. And while the DoD also agrees there would be some savings, the Department does not agree with the GAO estimate that between \$21.1 million and \$35.9 million could have been saved in procurement costs by repairing available unserviceable assets rather than buying new assets. Any savings would be considerably less than those estimated by the GAO.

As the GAO recognizes, the Army often has valid reasons for buying new items even though unserviceable ones are available for repair. Of the 36 items that the GAO maintains should have been repaired rather than purchased, 14 were field level repairables retained at depots. DoD policy is to not repair at depots field level repairables which cannot normally be economically repaired there. Additionally, 17 of the 36 items were present in such small quantities (10 or less), it is likely that item manager judgment, based on policy flexibility, would have deemed initiating depot repair was either not practical or not economical.

- **FINDING D: Impact of Stockage on Goals and Funding.** The GAO noted that the Army had directed its inventory control points to achieve a high level of stock availability and to obligate fully all or most of available procurement funds before year end. The GAO agreed that goals for maximizing stock levels and obligating funds for valid requirements can encourage effective supply management. The GAO found, however, that the inventory control points have not always responded to such goals with a balanced concern for economy when restocking inventories to meet customer requirements.

The GAO pointed out that, during the large-scale Military buildup of equipment in the 1980s, the Army responded with aggressive actions to improve readiness by increasing the availability of secondary assets. The GAO explained that, to do so, the Army required its inventory control points to attain an 85 percent stock availability goal (a measure of how often demands for assets are filled with stock on hand). The GAO found that at five of the six inventory control points, stockage levels have met or exceeded the 85 percent goal since FY 1986.

The GAO also found that the inventory control points had set goals to use the majority of procurement funds before the end of FY 1990. The GAO cited an example where the Army Materiel Command directed the Missile Command to obligate 100 percent of its procurement funds during FY 1989 and 83 percent of its procurement funds during FY 1990 for missile spares. According to the GAO, the inventory control points had no similar goals for obligating operations and maintenance funds for repair because, as 1-year appropriations, the funds must be obligated during the applicable fiscal year.

The GAO concluded that, even with the obligation plans and the decreasing Army procurement funds for secondary assets, the inventory control points have been unable to use all the funds appropriated to meet requirements. (pp. 4-5, pp. 26-30/GAO Draft Report)

DOD RESPONSE: Partially concur. The DoD stockage availability goal of 85 percent is long-standing and supports weapon system readiness objectives. However, during the hollow force era, which led to the 1980s buildup, the goal was frequently not achieved and readiness suffered.

Now on pp. 3, 18-21.

See comment 2.

The DoD procurement obligation rate goal is 92 percent for replenishment spares and 80 percent for initial spares, not 100 percent. In the Army Missile Command example, the 100 percent goal applies only to fiscal year 1987 procurement dollars obligated in fiscal year 1989. While budgets are predicated only on projected requirements, generally 100 percent obligation rates are unattainable in the first year of execution because some funding must be retained for unanticipated requirements at the end of the fiscal year and the procurement process usually delays some obligations.

- **FINDING E: Unserviceable Assets in Army Depots.** The GAO explained that, to manage unserviceable inventories effectively, item managers must examine the circumstances surrounding the need for each asset in determining whether to repair the asset or to dispose of it. According to the GAO, item managers need to know whether the Army has either repaired the asset in prior years or has current plans to repair the item. The GAO asked the Depot System Command to identify the dollar value of unserviceable assets held in inventories in FY 1988 and FY 1989 that had no past or present repair program for those years. The GAO found that the Army is holding about \$1.4 billion of unserviceable assets with no plans to repair the items.

The GAO indicated that the four categories of unserviceable assets with no past or present repair program have decreased from FY 1988 to FY 1989, particularly for inventories of field-level repairable and consumable items. The GAO noted, on the other hand, that the inventories of depot-repairable items and items for which the repair level is unknown have increased during the same period.

The GAO concluded that, for those assets which have no known designation, the Army has to first determine whether the assets are repairable or consumable before a decision can be made to keep them in storage at its depots or dispose of the assets. (pp. 5-6, pp. 32-33, p. 39/GAO Draft Report)

DOD RESPONSE: Concur.

- **FINDING F: Opportunities to Dispose of Some Repairable Assets.** The GAO explained that unserviceable assets designated for repair can be disposed of if the Army finds that the costs to repair are

greater than the costs to replace. The GAO found that item managers had data showing that, in 30 of the sample of 140 items, unserviceable assets valued at \$485,391 were beyond economic repair, but the managers had not taken any actions to dispose of the assets. The GAO pointed out that, when the auditors suggested that the managers dispose of these assets, the managers agreed to initiate disposal actions for 19 items with assets valued at \$356,255. According to the GAO, the managers decided to hold the other items on the basis that a need could arise for the assets. The GAO listed several examples to illustrate that condition and the item managers' rationale for allowing these assets to remain in the unserviceable asset inventory. (pp. 5-6, pp. 33-34, p. 39/GAO Draft Report)

DOD RESPONSE: Concur. As part of the Defense Management Review, decisions have been made to ease restrictive retention policy and reduce inapplicable inventories. Disposal of many unserviceable assets are resulting from the retention and disposal policy change contained in a Deputy Secretary of Defense memorandum of June 13, 1990. From September 1989 through March 1990, total Army inapplicable inventories have decreased \$1.5 billion.

FINDING G: Consumable Assets Should be Disposed of. The GAO pointed out that Army supply management policies provide that consumable assets are not intended for repair. According to the GAO, such assets should generally be disposed of once they become inoperative. The GAO learned from Depot System Command officials that, as of September 1989, the Army had unserviceable assets valued at \$17.3 million designated as consumable assets. The GAO sample was limited to the 140 repairable assets; however, the GAO judgmentally selected 21 consumable assets, valued at \$701,065, to test the Army rationale for holding these assets in storage.

The GAO found that, for 13 of the consumable assets valued at \$174,153, the item managers had not justified holding the items in storage. According to the GAO, the item managers agreed with the GAO suggestions to dispose of those assets. The GAO cited the following example to illustrate that most of these types of assets should not have been held in storage.

The GAO observed that, in September 1989, the Communications-Electronics Command had 166 unserviceable reel unit cables, NSN 8130 00 656 1090, valued at \$16,600 applicable to tactical communication systems. According to the GAO, the Requirements

Now on pp. 4, 25, 26.

Determination and Execution System inventory records showed that the most recent supply activity for the majority of the cables occurred in February 1989. The GAO found no reason for holding the cables at the Tobyhanna Army Depot and suggested to the item manager that disposing of these assets appeared proper. The GAO reported that the item manager initiated disposal of the cables after her supervisor agreed that Communications-Electronics Command had no reason to keep the assets. (pp. 5-6, pp. 34-35, p. 39/GAO Draft Report)

DOD RESPONSE: Concur. Unserviceable consumables generally should not be retained.

- FINDING H: Factors Contributing to Keeping More Stock in Storage Than Necessary. The GAO identified several reasons why item managers had not disposed of unserviceable assets that they had no justification to keep. According to the GAO, item managers at the three inventory control points visited said the following:

- changes in asset disposal policies during the 1980s contributed to the holding of assets in storage even though there were no plans to repair them (the GAO confirmed that those changes caused a surge in inventory levels at the depots, which resulted in serious storage problems, but the Army recently initiated actions to increase disposal of unneeded materiel in order to alleviate depot storage problems);
- there was confusion over what assets the items managers could dispose of, as long as they believed that Army Regulation 710-1 would not allow the disposal of assets applicable to an active weapon system (the GAO learned item managers were unaware that this regulation authorizes disposal if assets are uneconomical to repair or if storage space becomes crowded); and
- disposal actions had low priority and were time consuming to perform because of the manual administrative processing required to initiate them.

The GAO also noted that, before a disposal action could take place, the Army depot staff were supposed to challenge the recommendations to ensure that no requirements existed for the assets. The GAO concluded that, in order to make effective

Now on pp. 4, 26, 27.

inventory management decision, the Army must encourage its item managers to identify unserviceable assets that are candidates for disposal and initiate action accordingly. (pp. 5-6, pp. 35-37, p. 39/GAO Draft Report)

DOD RESPONSE: Concur. In 1985, the DoD adopted a policy to retain all serviceable and economically repairable materiel having application to a weapon system in active use by U.S. forces. Effective June 13, 1990, the retention policy was changed so that inventory quantities will be reduced in proportion to any reduction in the number of systems in use. This should greatly alleviate depot storage problems. Additionally, the Army has taken steps to reduce inapplicable and unserviceable assets in storage. In August 1990, the Requirements, Determination and Execution System was modified to eliminate automatic retention. Item managers now must act to hold stock in these levels when justified; otherwise, by default, the stock is identified as excess.

- FINDING I: Actions to Encourage Increased Asset Disposal.
The GAO that the DoD [the Office of the Secretary of Defense] and the Army have initiated actions to improve methods of determining whether to retain assets for repair or to dispose of the assets. The GAO explained that, in November 1988, the Army Materiel Command directed its inventory control points to examine their unserviceable inventories with no past or current repair programs and to dispose of unneeded assets.

The GAO noted that, in his March 1990 testimony before the Senate Committee on Governmental Affairs, the Deputy Secretary of Defense said that, beginning with unserviceable and obsolete items, materiel returned to the depots as a result of restrictive retention policies would be reduced. The GAO noted that, according to the Deputy Secretary, the DoD is seeking to encourage greater disposal through the Defense Management Review. In keeping with that policy, the GAO found that the Army has proposed to do the following:

- dispose of stock that it has previously retained on the basis that disposal was neither feasible nor economic (a type of asset known as "numeric retention level" stocks);
- prohibit field units from returning assets with a dollar value of \$50 or less; and

- reduce the inventory of obsolete end items.

The GAO further found that the DoD is currently working on an implementation plan, which it expects to complete by September 30, 1990. According to the GAO, officials in the Army Materiel Command Office of the Deputy Chief of Staff for Supply, Maintenance, and Transportation, stated that the proposals could result in the disposal of millions of dollars of unneeded assets and could help prevent the unserviceable inventory from further growth.

The GAO concluded that Army efforts to encourage the disposal of unneeded items have brought about increases in the value of assets disposed. As an example, the GAO noted that the value of disposed inventory increased from a low of \$7.0 million in FY 1985, at the height of restricted disposal, to \$524.5 million in FY 1989, as follows:

Dollar Value of Disposed Assets
(Dollars in millions)

Year	Value
1985	\$7.0
1986	19.9
1987	498.5
1988	319.0
1989	524.5

The GAO pointed out that, in order to implement the Army Materiel Command initiatives and to help its item managers identify candidate items for disposal, the Missile Command developed an automated system to identify unserviceable assets that were (1) not repairable after use, (2) designated as below-depot-level repairable items with no planned repair program, or (3) above authorized retention levels. According to the GAO, the Missile Command developed that system at an estimated cost of about \$34,000 to automate the administrative process for identification and disposal of unneeded assets. The GAO noted the Army Materiel Command is evaluating whether such a system should be incorporated by all the inventory control points. (pp. 5-6, pp. 37-39/GAO Draft Report)

Now on pp. 4, 27, 28.

DOD RESPONSE: Concur. The Army has already implemented actions to effect rapid and timely disposal of unserviceable and uneconomically repairable items. System changes were approved in April 1990 to remove any system blocks impeding disposal of unnecessary stocks with implementation scheduled in FY 1991. Additionally, Army Regulation 710-2, "Retail Supply Policy," has been revised to authorize local disposal of items valued at less than \$50. The regulation is currently in final draft, with scheduled issuance in January 1991. In the interim, letter guidance has been issued to the field.

- **FINDING J: Internal Controls—Recurring Problems Have Not Been Corrected.** The GAO explained that the Federal Managers' Financial Integrity Act (31 U.S.C. 3512(b) and (c)) requires agency management to have adequate internal controls to ensure that the Government inventory investments are prudent and that assets are properly used or disposed of when no longer needed. According to the GAO, an important step in strengthening internal controls is verifying that planned actions have been implemented as envisioned and that corrective actions have been effective.

The GAO found that prior studies and audits documented that the Army had not acted promptly to encourage compliance and to promote inventory management practices that balance economy with readiness goals. The GAO further found that the needed corrective actions had been thoroughly identified--but, by not following through, the Army lost opportunities to manage many aspects of its inventory effectively, including the repair of existing assets and disposal of unneeded materiel. The GAO selected some examples from the large volume of studies and reports on these issues to illustrate the long-standing nature of the conditions discussed in its current report. The GAO provided several examples for each of the following issues:

- unserviceable inventories without repair programs;
- filling customer orders and obligating funds;
- the need for management emphasis on economy.

The GAO concluded, that since timely and responsive action to correct the cited deficiencies is required by internal control standards, the Army resolution of those problems should have been

Now on pp. 4, 31-35.

See comment 3.

prompt and the corrective actions adequately monitored to ensure that the improvements needed for an effective, efficient, and economical defense supply system were made. (pp. 41-46/GAO Draft Report)

DOD RESPONSE: Partially concur. In its FY 1989 Statement of Assurance, the Department of the Army identified an internal control material weakness addressing excess inventory and inventory growth (ID# DCSLOG-89-001). As a result, corrective actions are already required regarding unnecessary procurements and ineffective use of inapplicable assets. Additionally, the DoD Inventory Management Program announced by the Under Secretary of Defense for Acquisition on May 21, 1990, provides performance measures and monitoring to assess and verify execution of inventory management improvements. The unserviceables will also be monitored as a part of the DoD Inventory Management Program.

- **FINDING K: Internal Controls—Compliance Needed With Existing Policy and Guidance.** The GAO observed that the existing DoD [Office of the Secretary of Defense] and Army policy and guidance appear sufficient to promote maximum readiness at the least possible cost and to dispose of unneeded stock. The GAO found, however, that local guidance and emphasis on filling customer orders and obligating funds is undermining the DoD goal to have the right part at the right place at the right time, but without incurring unnecessary costs. According to the GAO, resolving the local situation will require compliance with existing policies and regulations and a greater emphasis on economy and efficiency than currently exists.

The GAO pointed out that the Army is required by the Financial Managers' Integrity Act to review and report annually on its internal control systems. The GAO emphasized that weaknesses in controls are considered "material" when, among other things, they exist in a majority of agency components and risk or result in the actual loss of at least \$10 million. The GAO observed that the Army Materiel Command assessment of internal controls for FY 1988 and FY 1989 did not identify the potential for buying new assets with unserviceable assets on hand. The GAO indicated that the FY 1988 assessment noted that overcrowded storage space did not warrant reporting to Army headquarters, but that it was a continuing concern for Command.

The GAO further noted that none of the inventory control points it visited had reported the cited issues as material weaknesses in their reports on internal controls. The GAO acknowledged that the Aviation Systems Command did identify insufficient staff as a material weakness and as a reason for (1) not properly using the Requirements Determination and Execution System studies and (2) not processing many recommendations to cut back procurement or declaring items excess. The GAO concluded that, although existing policy and guidance require economy and efficiency in decisions to repair or buy or dispose of items, the long-standing emphasis on filling customer orders and obligating funds show that the Army has not corrected its problems and should consider these problems as weaknesses to be reported under the Financial Managers' Integrity Act. (pp. 45-46/GAO Draft Report)

DOD RESPONSE: Partially concur. The existing Department of the Army internal control material weakness (ID# DCSLOG-89-001) regarding excess inventory and inventory growth is sufficient to track corrective actions in this area.

* * * * *

RECOMMENDATIONS

- RECOMMENDATION 1: The GAO recommended that the Secretary of the Army direct the Commander of the Army Materiel Command to establish the means to monitor the inventory control points' compliance with Army policy and regulations that require unserviceable assets to be repaired when it is more economical than purchasing new ones. (p. 7, p. 31/GAO Draft Report)

DOD RESPONSE: Concur. The Secretary of the Army will issue the direction within ninety days. Headquarters, Army Materiel Command Compliance Review Teams are currently conducting on-site visits at all Army Materiel Command Major Subordinate Commands to review compliance with supply policy and procedures in many areas, including managing unserviceable assets.

- RECOMMENDATION 2: The GAO recommended that the Secretary of the Army direct the Commander of the Army Materiel Command to evaluate the program developed by the Army Missile Command to match assets due in from procurement with on-hand unserviceables

Now on p. 22.

and determine whether the other inventory control points should be using the system. (p. 7, p. 31/GAO Draft Report)

DOD RESPONSE: Concur. The Secretary of the Army will issue the direction within ninety days. A review of the recommended Army Missile Command program is being added as a topic to the supply management area for the upcoming Headquarters Army Materiel Command Compliance Review Team visit to Army Missile Command.

Now on pp. 5, 29.

- RECOMMENDATION 3: The GAO recommended that the Secretary of the Army direct the Commander of the Army Materiel Command to clarify to item managers that existing regulations allow the managers to dispose of items the Army (1) has determined to be uneconomical to repair or (2) does not plan to include in a repair program. (p. 7, p. 39/GAO Final Report)

DOD RESPONSE: Concur. The Secretary of the Army will issue the direction within ninety days. Headquarters Army Materiel Command has already implemented actions to effect rapid and timely disposal of unserviceable and uneconomically repairable items. System changes were approved in April 1990 to remove any system blocks impeding disposal of unnecessary stocks, with implementation scheduled in FY 1991. Further, the Army Materiel Command has implemented management controls to monitor disposal effectiveness by Major Subordinate Commands. These actions conform to, and support the disposal objectives prescribed by the DoD Inventory Management Program.

Now on p. 29.

- RECOMMENDATION 4: The GAO recommended that the Secretary of the Army direct the Commander of the Army Materiel Command to develop an effective automated procedure for use Army-wide that will identify and initiate the disposal of assets that the Army does not plan to repair, if the Missile Command program to identify candidates for disposal proves unacceptable. (p. 4, p. 29/GAO Final Report)

DOD RESPONSE: Concur. The Secretary of the Army will issue the direction within ninety days. Pending completion of the Army Materiel Command evaluation of the Army Missile Command program, system change proposals will continue to be evaluated to foster a more automated means of providing stock data summaries to managers as a tool to support disposal management. Implementation of such change proposals is subject to funds availability and may become unnecessary if the DoD decides, as

part of the DoD Corporate Information Management Initiative, to replace Army materiel management systems with other DoD-wide interim systems.

- RECOMMENDATION 5: The GAO recommended that the Secretary of the Army direct the Commander of the Army Materiel Command to follow up regularly on planned corrective actions that have responded to audit findings and recommendations to ensure that the actions have been successfully implemented. (p. 47/GAO Draft Report)

DOD RESPONSE: Concur. The Secretary of the Army will issue the direction within ninety days.

- RECOMMENDATION 6: The GAO recommended that the Secretary of the Army direct the Commander of the Army Materiel Command to report the deficiencies in managing the unserviceable inventories as a material weakness in the Army system of internal controls. (p. 47/GAO Draft Report)

DOD RESPONSE: Concur. The recommendation is moot, however. In its FY 1989 Statement of Assurance, the Department of the Army already included an internal control material weakness (ID# DCSLOG-89-001), which addresses excess inventory and inventory growth, and which already requires corrective actions regarding unnecessary procurements and ineffective use of inapplicable assets, including unserviceable inventories. Further reporting is, therefore, not required.

The following are GAO's comments on the Department of Defense's letter dated September 25, 1990.

GAO Comments

1. The text of the report has been revised to incorporate DOD's position.
2. Same as comment 1 above.
3. For the reasons explained in Chapter 4 under the heading "Agency Comments and Our Evaluation," we now agree that separate reporting on this internal control deficiency is not needed.
4. Same as comment 3 above.
5. Recommendation deleted based on comment 3.

Major Contributors to This Report

National Security and
International Affairs
Division, Washington,
D.C.

Henry L. Hinton, Associate Director
Kenneth R. Knouse, Jr., Assistant Director

Atlanta Regional
Office

Waylon Catrett, Regional Management Representative
Bobby Worrell, Evaluator-in-Charge
Danny Owens, Site Senior
Carol Mebane, Evaluator
Sharon Kirby, Evaluator